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Egress.

	h	m	s	
First Contact	2	50	16·5	Definition improved; time noted at first formation of ligament. Observation considered fair.
Last Contact	2	55	3·5	A little too soon, as both planet and Sun were unsteady.

No halo was seen round the planet, nor any light speck on its disc, although carefully searched for.

My telescope has a clear aperture of 6 inches, 97 inches focus. A Kellner eyepiece, power 70, was used for the contacts, and negative eyepieces of 110 and 200 for physical observations during the Transit. A solar diagonal and tinted wedge were used in conjunction with the eyepieces.

A few spots were observed on the Sun, forming a strong contrast with the intense blackness of *Mercury*. At intervals during the Transit the definition was good, *Mercury* bearing the power of 200 well, but no signs of an atmosphere were visible. I remember seeing a luminous halo round *Venus* during the Transit of December 1874, but nothing of the kind could be traced on this occasion.

Port Macquarie, New South Wales:
1891 *May* 14.

The Conjunction of Venus and Jupiter, 1891 *April* 7, *observed at Windsor, New South Wales.* By John Tebbutt.

Australia was well situated for the observation of the near approach of the planets *Venus* and *Jupiter* on April 7, 1891. Notwithstanding occasional clouds, I succeeded in obtaining twelve good measures of the differences of right ascension and of north polar distance with the filar micrometer of the 8-inch equatoreal. The steadiness and definition of the images were unusually satisfactory, and the individual measures very consistent. The following are the results, together with a comparison of them with those derived by interpolation with second differences from the *Nautical Almanac*. The correction for the defective illumination of *Jupiter's* western limb is insensible. The differential co-ordinates correspond to the mean of the twelve transits of *Jupiter's* centre over the single micrometer thread, which itself corresponds to $19^{h}\ 9^{m}\ 39^{s}{\cdot}9$ sidereal, or $18^{h}\ 6^{m}\ 27^{s}{\cdot}3$ mean time, at Windsor.

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	h	m	s
Mean of sidereal times of transits of *Venus*' second limb ...	19	9	28·18
Sidereal time of semidiameter passing the meridian			−0·52
Concluded mean of sidereal times of transit of *Venus*' centre ...	19	9	27·66
Mean of sidereal times of transits of *Jupiter's* limbs	19	9	39·90
Difference of transits of centres. *Jupiter–Venus*			+12·24
Correction for error in perpendicularity of micrometer threads			− 0·10
Correction due to change of *Venus*' R.A.			− 0 04
Correction for differential refraction			− 0·02
Correction for differential parallax			+ 0·29
Concluded difference of geocentric apparent R.A. *Jupiter–Venus*			+12·37
Difference per *Nautical Almanac*			+12·22
Observation – Calculation ...			+ 0·15

	′	″
Observed difference of N.P.D. of north limb of planets... ...	+11	47·4
Correction for semidiameter of *Venus*		− 7·7
Correction for semidiameter of *Jupiter*		+16·1
Correction for change of *Venus*' N.P.D.		+ 0·2
Correction for differential refraction		+ 0·2
Correction for differential parallax		− 3·0
Concluded difference of geocentric apparent N.P.D. *Jupiter–Venus*	+11	53·2
Difference per *Nautical Almanac*	+11	54·1
Observation – Calculation ...		− 0·9

Windsor, New South Wales:
1891 *June* 1.

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Ephemeris of the Satellite of Neptune, 1891–92. By A. Marth.

Greenwich, Noon.	P′	*a*	*b*	*u*−U	Diff.	U	B
1891.	°	″	″	°	°	°	°
Oct. 24	330·34	16·84	9·37	334·43	612·34	122·11	−33·81
Nov. 3	330·13	·89	9·38	226·77	·31	122·37	33·73
13	329·87	·93	9·38	119·08	·28	122·66	33·64
23	329·60	·95	9·37	11·36	·26	122·97	33·54
Dec. 3	329·32	·95	9·34	263·62	·26	123·28	33·44
13	329·05	·93	9·31	155·88	·26	123·59	33·34
23	328·80	·90	9·26	48·14	·28	123·88	33·24
1892.							
Jan. 2	328·57	16·85	9·21	300·42	612·32	124·14	−33·15
12	·38	·79	9·16	192 74	·36	·36	33·06
22	·23	·71	9·10	85·10	·41	·53	33·00
Feb. 1	328·13	·62	9·04	337·51	·46	·65	32·95
11	·08	·53	8·98	229·97	·52	·70	32·92
21	·09	·44	8·93	122·49	·59	·69	32·91
Mar. 2	328·15	·34	8·88	15·08	·65	·62	32·93
12	·26	·25	8·84	267·73	·71	·49	32·96
22	·43	·16	8·81	160·44	612·76	·30	33·01
Apr. 1	328·64	16·09	8·78	53·20		124·05	−33·07

The values of P′, a, b, and $u-\mathrm{U}$ are to be interpolated directly for the times for which the apparent positions of the satellite are required, and the position-angles p and distances s of the satellite are then found by means of the formulæ:

$$s \sin (\mathrm{P}'-p) = a \sin (u-\mathrm{U}),$$
$$s \cos (\mathrm{P}'-p) = b \cos (u-\mathrm{U}).$$

In the May number of the *Monthly Notices*, on page 439, Mr. Isaac Roberts has communicated position-angles of the satellite, which he has deduced from measurements of eight of his photographs of *Neptune.* The strict testing of these angles would require that either a good series of micrometrical measures made during the last opposition should be available or that the changes of the elements of the orbit should be better known than they are at present (cf. the remarks on pp. 459–460 of vol. 49). But though, on account of the existing uncertainty of the shifting of the plane of the orbit, only approximate elements can be made use of, a comparison of the position-angles derived from the photographs with the corresponding computed places will not be without interest, as it sufficiently indicates the uncertainties pro-